Example 1: Survey Data Form

Long-billed Curlew Range-wide Monitoring Survey Data Sheet

Survey Route State and Number: WY 51132 Savery

Date: 24 April 2005

Start Time: 0754 Start GPS reading: 13 T 0272981-4623822

Weather at Start:

Wind: 1 Sky: 0 Temp: 52°F C/F

Observer A: John L. Doe (JLD)

Observer B: Petunia M. Flower (PMF)

End Time: 1325 End GPS reading: 13 T 0264762-4626138

Weather at End:

Wind: 3 Sky: 0 Temp: 68°F C/F

Stop #	Min	Obs	Species	How Detected	Distance			Degree/ Quad	Habitat		Comments (juveniles, courtship behavior, flyovers, flock size, sex)
					0-400m	400-800m	>800m		Code	Height	
1			NONE								
2	3	PMF1	LBCU	V			X	NE	UNKN		flew in during survey; AHY, T, 1, U
3	1	JLD1	LBCU	B	X			NE	SHRB-SAGE	4	AHY, FE, 1, U
4			NONE								
5	1	JLD1	LBCU	A	X						same as below--never seen by 1° observer
	1	PMF2	LBCU	B	X			NE	GRAS-SHTG-SHRT	2	same bird as above, 2° saw and heard it; AHY, R, 1, U
6			NONE								
7	2	JLD1	MAGO	B		X		SW	CROP-DY	1	AHY, FE, 1, U
	4	JLD1	LBCU	V			X	SW			FO, 1
etc.											

Route State/Number: WY 51132 Savery Date: 24 April 2005 Supplemental Page No: 4

Observer A: John L Doe (JLD) Observer B: Petunia M. Flower (PMF)

Stop #	Min	Obs	Species	How Detected	Distance			Degree/ Quad	Habitat		Comments (juveniles, courtship behavior, flyovers, flock size, sex)
					0-400m	400-800m	>800		Code	Height	
34	4	PMF1	LBCU	V	X			NW	GRAS-PAST-SHRT-GRAZ	2	AHY, FE 2, M
	4	PMF1	LBCU	V	X			NW	GRAS-PAST-SHRT-GRAZ	2	AHY, FE, 2, F
35	2	JLD1	LBCU	V		X		SW	EMWL-EPHW	2	AHY, R, 1, M
36	3	PMF1	LBCU	B	X			SE	GRAS-PAST-SHRT-GRAZ	2	AHY, FE, 2, M
	3	PMF1	LBCU	B	X			SE	GRAS-PAST-SHRT-GRAZ	2	AHY, FE, 2, F
	3	PMF1	LBCU	B		X		SE	GRAS-PAST-SHRT-GRAZ	2	AHY, FE, 2, M
	3	PMF1	LBCU	B		X		SE	GRAS-PAST-SHRT-GRAZ	2	AHY, R, 2, F
37	4	JLD1	LBCU	V		X		SE	GRAS-PAST-SHRT-GRAZ	2	AHY, R, 1, U
	5	JLD1	LBCU	B		X		SW	GRAS-PAST-SHRT-GRAZ	3	AHY, R, 1, U
38	3	PMF1	LBCU	V	X			NW	CROP--DY	1	AHY, F, 1, U
	2	JLD2	LBCU	V		X		NW			AHY, FO, 1, U; never seen by 1°
	3	JLD2	LBCU	V			X	NW			AHY, FO, 1, U; never seen by 1°
39	5	PMF2	UPSA	A			X				heard only, not detected by 1°
40		NONE									

Survey route information is put on the sheet:
State and number of route as well as the nearest town for cross reference are recorded. Observer 1 will be John Doe and he will be the primary observer for the odd numbered stops. Petunia M. Flower will be the primary observer for the even numbered stops. ***Designation for the primary and secondary observers is imperative for proper data analysis. Denote the birds seen by the secondary observer only if the primary observer did not detect the bird. Make it clear on the data sheet that a bird was only detected by the secondary observer.*** The date, start time and starting GPS reading are recorded on the sheet. Units should be UTM coordinates with GPS unit set to NAD27 CONUS (U.S.) and NAD27 Canada (Canadian provinces). Please inform your regional coordinator of any deviations. Use zone-easting-northing format. The weather at the start is recorded using the Beaufort Wind Scale and Sky Codes from the cheat sheet (located in Appendix C) and taking a temperature reading. Indicate if C or F degrees are used.

Stop 1: no birds seen
Stop 2: at 2 minutes 54 seconds, a lone LBCU flies into the area and lands calling about 900 m away. You can't see it once it lands but hear it in the same spot throughout the rest of the survey. It is seen by both observers.
Stop 3: primary observer sees and hears a LBCU within thirty seconds of the 5 minute survey period. It is within 400m in the NE quadrant. It is alone and feeding in some sagebrush which reaches the back of the LBCU. Sex is undetermined. All Habitat Codes, Vegetation Height Codes, Species Codes, and LBCU Age & Sex Codes, Flock Codes, and Activity Codes are on the cheat sheet located in Appendix C.
Stop 4: no birds seen
Stop 5: both observers hear a LBCU 45 seconds from the start of the survey, within 400m. The primary observer (JLD) never sees it, however the secondary observer (PMF) does see it. After the 5 minute survey period she points it out. It was roosting alone in the NE quadrant in 3" shortgrass prairie. Sex is undetermined.
Stop 6: no birds seen
Stop 7: primary observer sees and hears a marbled godwit 1 minute and 16 seconds from the start of the survey feeding alone in a dryland cultivated field 600m out in the SW quadrant. At 3 minutes and 17 seconds into the survey a single LBCU flies overhead in the SW quadrant. It doesn't land. JLD is not comfortable sexing birds on the wing.
etc.

Stop 34: there is a pair of LBCU seen at 3 minutes and 22 seconds from the start of the survey, within 400m feeding in the NW quadrant in a short grass pasture. There is an obvious difference in length of bill and size. PMF is the primary observer and sees both of them.
Stop 35: JLD is the primary observer and at 1 minute and 2 seconds into the survey he sees a single LBCU roosting in the SW quadrant in a wetland 600 m away. The water depth goes half way up the bird's leg. Based on bill length it is determined to be a male.
Stop 36: PMF is the primary observer and sees and hears two pairs of LBCU at 2 minutes and 24 seconds. One pair is feeding about 150 m in the SE quadrant. The other pair is 750 m away but also in the SE quadrant. One bird is roosting and the other is feeding. All birds are in a short grass pasture which has recently been grazed (there are fresh cow pies all around). Birds are sexed based on obvious size and bill length differences. These birds are also seen by JLD.
Stop 37: JLD is the primary observer and sees a LBCU roosting 650 m into the SE quadrant. It is standing on one foot with its bill tucked out of sight in a short grass pasture which has cows present. It is first sighted at 3 minutes and 54 seconds. A second LBCU at the stop is heard and seen at 4 minutes and 56 seconds. It is about 600 m away and is in the SW quadrant. It does not seem to be interacting with the first LBCU and is lying down in the grazed short grass pasture.

Stop 38: the secondary observer at this stop is JLD. He sees a LBCU flyover head without stopping across the NW quadrant about 450 m out at 1 minute and 35 seconds. He also sees another LBCU flyover at 2 minutes and 15 seconds about 900 m out over the NW quadrant. At 2 minutes and 39 seconds both observers see a single LBCU feeding in a dryland crop field 350 m into the NW quadrant. Neither of the flyover birds were seen by the primary observer PMF.

Stop 39: the secondary observer hears an upland sandpiper at 4 minutes and 45 seconds. The location can't be pinpointed but it sounded like it was a great distance away. It was not heard by the primary observer.

Stop 40: no birds seen.

The end time and ending GPS reading are recorded on the sheet. The weather at the end is recorded using the Beaufort Wind Scale and Sky Codes from the cheat sheet (located in Appendix C) and taking a temperature reading. Indicate if C or F degrees are used. Make sure all supplemental pages are numbered consecutively beginning with 1. Put the total number of pages (X) at the top of the first page (Page No 1 of X).

The GPS reading at the start of the survey should be the same on both the Survey Data Form and stop #1 of the Habitat Data Form. The GPS reading at the end of the survey should be the same on both the Survey Data Form and stop #40 (or what ever the last number of stops was) of the Habitat Data Form.

Example 2: Habitat Data Form

HABITAT DATA

Long-billed Curlew Range-wide Monitoring Habitat Data Sheet

Survey Route Number/Name: WY 51132 Savery

Observer A: John L. Doe (JLD)

Date: 24 April 2005

Observer B: Petunia M. Flower (PMF)

Stop #	GPS Reading (zone-easting-northing)	Topo % Hab Visible	Habitat Classification by Quadrant			
			NE	SE	SW	NW
1	13 T 0272981-4623822	R-100%	100% GRAS-SHRT-GRAZ	50% CROP-winterwheat-DY	50% CROP-corn-IR 50% BARE	100% GRAS-SHRT
				50% BARE		
2	13 T 0272200-4623854	F-100%	100% GRAS-SHTG-SHRT-PDOG-IA#34	100% GRAS-SHTG-SHRT-PDOG-AC#12	100% GRAS-CRPC-TALL	75% RCWS 25% OWWL-sewage
3	13 T 0271456-4623965	F-100%	100% SHRB-SAGE	100% WOOD-CONF	100% OTHR-ROCK	100% WEED-GRAZ
4	13 T 0271032-4624011	R-80%	25% GRAS-NTPA-MEDM	75% GRAS-PAST-SHRT-GRAZ	100% OTHR-URCP-SHRT-MCUT-IR-	100%WOOD-DECW
			75% UNKN	25% WOOD-RIPA-GRAZ	cemetery	
5	13 T 0270654-4624821	F-100%	75% GRAS-SHTG-SHRT	65% CROP-DY 35% BARE-IR	100% GRAS-NTPA-SHRT-MCUT-HPLT-	100% CROP-MCUT
			25% EMWL-SPLW	OILPx2	windmills x 15	
6	13 T 0270001-4624901	F-100%	100% GRAS-TALG-MEDM-HPLT	95% OTHR-FLOT	95% RCWS	75% BARE-GRAZ 25% STOK
7	0269925-4625023	F-100%	100% GRAS-PAST-TALL	50% BARE-DY 25% WOOD-ASPE	75% CROP-DY 25% EMWL-EPHW	100%EMWL-AKLW-dry
				25% EMWL-SPLW		
8	0269125-4625035	R-100%	66% STEP 25% WOOD-OAKS	75% SHRB-SALT 25% SHRB-SAGE	100% BARE-BURN evidence of burned PJ	100%WEED-MEDM-INVA-cheatgrass 75%
	etc.					
37	0265996-462598	F-100%	100% GRAS-PAST-SHRT-GRAZ	100% GRAS-PAST-SHRT-GRAZ	100% GRAS-PAST-SHRT-GRAZ	100% GRAS-PAST-SHRT-GRAZ
38	0265789-4626015	F-100%	100% GRAS-PAST-SHRT-GRAZ	100% GRAS-PAST-SHRT-GRAZ	100% GRAS-PAST-SHRT-GRAZ	100% CROP-DY
39	0265013-4626118	R-100%	100% GRAS-PAST-SHRT-GRAZ	100% GRAS-PAST-SHRT-GRAZ	100% GRAS-PAST-SHRT-GRAZ	100% GRAS-PAST-SHRT-GRAZ
40	13 T 0264762-4626138	F-100%	100% GRAS-PAST-SHRT-GRAZ	100% GRAS-PAST-SHRT-GRAZ	100% GRAS-PAST-SHRT-GRAZ	100% GRAS-PAST-SHRT-GRAZ

Survey route information is put on the sheet:

State and number of route (nearest town optional for cross reference). Observer A will be John Doe and he will be the primary observer for the odd numbered stops. Petunia M. Flower will be the primary observer for the even numbered stops and is designated Observer B. Record the date in day month year format.

GPS coordinates: please use UTM units as described under "equipment calibration" in the "Instructions to Observers for Conducting Long-billed Curlew Surveys 2005". Please use the format "zone easting-northing".

Stop 1: NE quadrant is a grazed area (you see fresh cow patties) in short grass but you can't tell which grass species are present or if it is a tame or native prairie; the SE and SW quadrants are both equally planted and freshly plowed fields, the SE planted in winter wheat and the SW is an irrigated corn field; NW quadrant has grass less than 5" tall, again, you can't tell the species and there is no evidence of recent grazing. The topography is rolling but you can see the entire survey area.

Stop 2: NE quadrant has buffalo grass and some small shrubs and you see 34 prairie dog burrows, none of which look as though they are being used (no dogs, no fresh diggings, grown over), the height of the grass is less than 5"; SE quadrant looks like the NE quadrant but with 12 burrows and prairie dogs running around on it; SW quadrant has a Conservation Reserve Program sign and tall grass; NW quadrant has a farmstead with buildings and shelterbelt which covers about 3/4 of the area and a sewage lagoon covering the rest. The topography is flat and you can see the entire survey area.

Stop 3: NE quadrant is covered with sagebrush; SE quadrant is covered in pinyon-juniper; SW quadrant is bare rock; NW quadrant looks like a crop field which has been allowed to go wild--you see lots of forbs and some grass, and there are cattle present. The topography is flat and you can see the entire survey area.

Stop 4: NE quadrant cannot all be seen because most of it is behind a hill, the 25% you can see is a native prairie about 8 inches high; SE quadrant is a pasture land with grass about 3" tall, an unfenced riparian area going through the center of it and horses within the quadrant; SW is a cemetery with mowed grass and an irrigation system; NW quadrant is a mix of deciduous trees. The topography is rolling and you estimate that about 20% of the survey area is not visible.

Stop 5: NE quadrant has a wetland within a grassland, you recognize wheatgrass, needlegrass, and several native shortgrass species; SE quadrant has a planted crop, recently plowed areas and 2 oil pumps; SW quadrant is a windfarm, essentially a mowed native prairie with several windmills on it; NW quadrant is a harvested hay field with the previous year's stubble left on it. The topography is flat and you can see the entire survey area.

Stop 6: NE quadrant is a big bluestem prairie, most of which are about 12 inches tall, there are also electric lines running across the quadrant; SE quadrant is dominated by a feedlot; SW quadrant has buildings associated with the feedlot; NW quadrant is a bare field with evidence of cattle and several stock ponds. The topography is flat and you can see the entire survey area.

Stop 7: NE quadrant is a grassy field and you can see ridges where it was obviously plowed at one time, the grass is now about two feet tall; SE quadrant has pockets of aspen trees growing around wetland areas, between the trees it has been plowed for crops; SW quadrant has wetland areas without trees and has a crop which has just sprouted; NW quadrant has a dry wetland with heavy salt deposits around it leading you to believe it is an alkali wetland when there is water. The topography is flat and you can see the entire survey area.

Stop 8: NE is a hilly area with an equal amount of grass and shrub equally dispersed and several pockets of shrub oak; SE quadrant is a mixture of saltbrush, greasewood and sagebrush; SW quadrant looks like it was once a pinyon juniper covered mountainside but it has recently been burned and there is nothing growing on it now; NW quadrant is a weedy field with lots of 7 inch high cheat grass. The topography is rolling but you can see the entire survey area and you can see the entire survey area.

Stop 37: all four quadrants are non-native rangeland that are short in stature and grazed. The topography is flat and you can see the entire survey area.
Stop 38: NE, SE, and SW are non-native rangelands, short in stature and grazed; NW quadrant is a dryland cultivated field. The topography is flat and you can see the entire survey area.
Stop 39: all four quadrants are non-native rangeland that are short in stature and grazed. The topography is rolling but you can see the entire survey area.
Stop 40: all four quadrants are non-native rangeland that are short in stature and grazed. The topography is flat and you can see the entire survey area.

At the end of the survey make sure all supplemental pages are numbered consecutively beginning with 1. Put the total number of pages (X) at the top of the first page (Page No. 1 of X). The GPS reading at the start of the survey should be the same on both the Survey Data Form and stop #1 of the Habitat Data Form. The GPS reading at the end of the survey should be the same on both the Survey Data Form and stop #40 (or what ever the last number of stops was) of the Habitat Data Form.